EASTSIDE PREPARATORY SCHOOL
SCIENCE BUILDING

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City of Kirkland Design Review:
Conceptual Design Conference
June 2014

PUBLIC47ARCHITECTS

PROJECT DESCRIPTION

EASTSIDE PREPARATORY SCHOOL - SCIENCE BUILDING

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The proposed project is a new education building for Eastside Preparatory School.
The building will include science and fabrication classrooms and laboratories for the upper school, including Chemistry, Physics, and Biology. It will also include integrated faculty space, a multifunctional learning area, and the school's gymnasium and fitness center.
The educational facility intends to stimulate the student's curiosity and provide opportunities to explore, create, imagine, and invent.

Zoning Summary

Address	**10624 & 10626 NE 37th Circle Kirkland, WA 98033 (Buildings 19 & 20)**
Site Area	**9,731 SF**
Zoning	**YBD 3 - Commercial**
Height	**60 feet**

DEVELOPMENT OBJECTIVES

Academics: High-Quality Learning Environment

Project provides opportunity to support a stimulating and supportive learning environment.

Eastside Preparatory School maintains a school culture that focuses on the student's experience – students are the most successful when they feel known, accepted, and challenged by their community of peers and faculty.

- Commons: Circulation, Learning, and Faculty spaces are integrated. Provides space for independent student project teams to collaborate.
- Amphitheater: Multifunctional space provides a venue for social and learning opportunities, such as presentations, robotics competitions, study groups, and display of student work and projects.
- Makers Lab: studio for rapid prototyping and digital fabrication
- Science Lab: new state-of-the-art science labs to support the STEM curriculum.

Organization: Creative integration of a mixed-program

Project combines dissimilar programs together into a cohesive and functional building.

There is an opportunity to provide the school with a variety of needed spaces, including an indoor gymnasium on campus for the young school. Although it is unconventional to combine classrooms and labs with a gymnasium, it is imperative given the school's limited ability to expand the campus within the business park. The building will be designed so that each can function as intended while being within the same structure.

The school does not currently have a gym, and students have to practice at gyms off campus. In 2012, the Eastside Prep Eagles joined the Emerald City League 1A athletic conference.

- Provides a dedicated gymnasium for the evolving school.
- Gymnasium creates a venue for social functions, such as a science fairs and school dances.

Campus: Invigorate Pedestrian Character on Campus

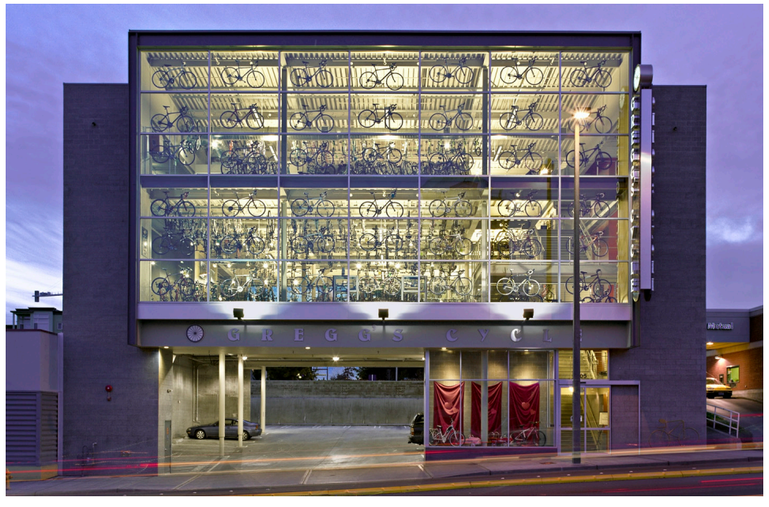
Improve quality and functionality of pedestrian-oriented school campus and establish precedent for future development.

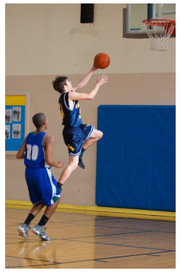
The school campus includes five buildings, and the connections between buildings are pedestrian-oriented. Existing walkways are utilitarian, as the campus was originally designed as an business park with unrelated users. The plaza outside the recently renovated Student Commons begins to establish itself as the center of campus, and the design for the new project strives to connect, support, and strengthen the central pedestrian areas.

- Connect and improve the pedestrian connections within the campus system.
- Create an exterior amphitheater that links the upper Commons plaza to the new building entry, and continues as an interior amphitheater within the new building.
- Create desirable exterior spaces that offer varied places for students to hang, sit, study, relax, learn, eat, and more.

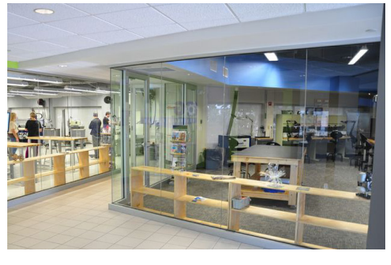
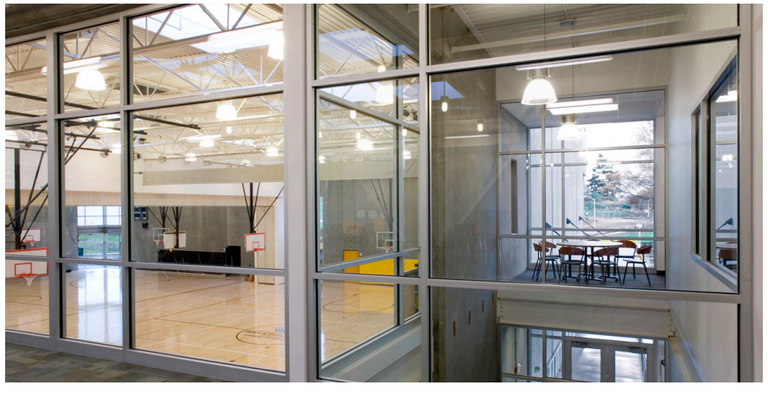








VICINITY MAP

Vicinity Context

The Eastside Preparatory School campus is comprised of five separate buildings within the Linbrook PUD, which is central to the Yarrow Bay Business District. This area is located just southeast of Yarrow Bay, at the southern end of the Kirkland City limits, and just north of the Bellevue City limits.

Topography

The subject property and the campus originally had a gentle sloping topography. However, when the campus was originally constructed, the approach was to grade flat areas for buildings. This results in a series of retaining walls and berms between buildings.
Creating more gracious pedestrian connections between buildings is a long-term goal for the campus, and will be considered with this project.

LEGEND

- Eastside Prep Campus
- Project Site
- Contour Lines

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AERIAL PHOTOGRAPH - VICINITY CONTEXT

URBAN CONTEXT ANALYSIS

Uses

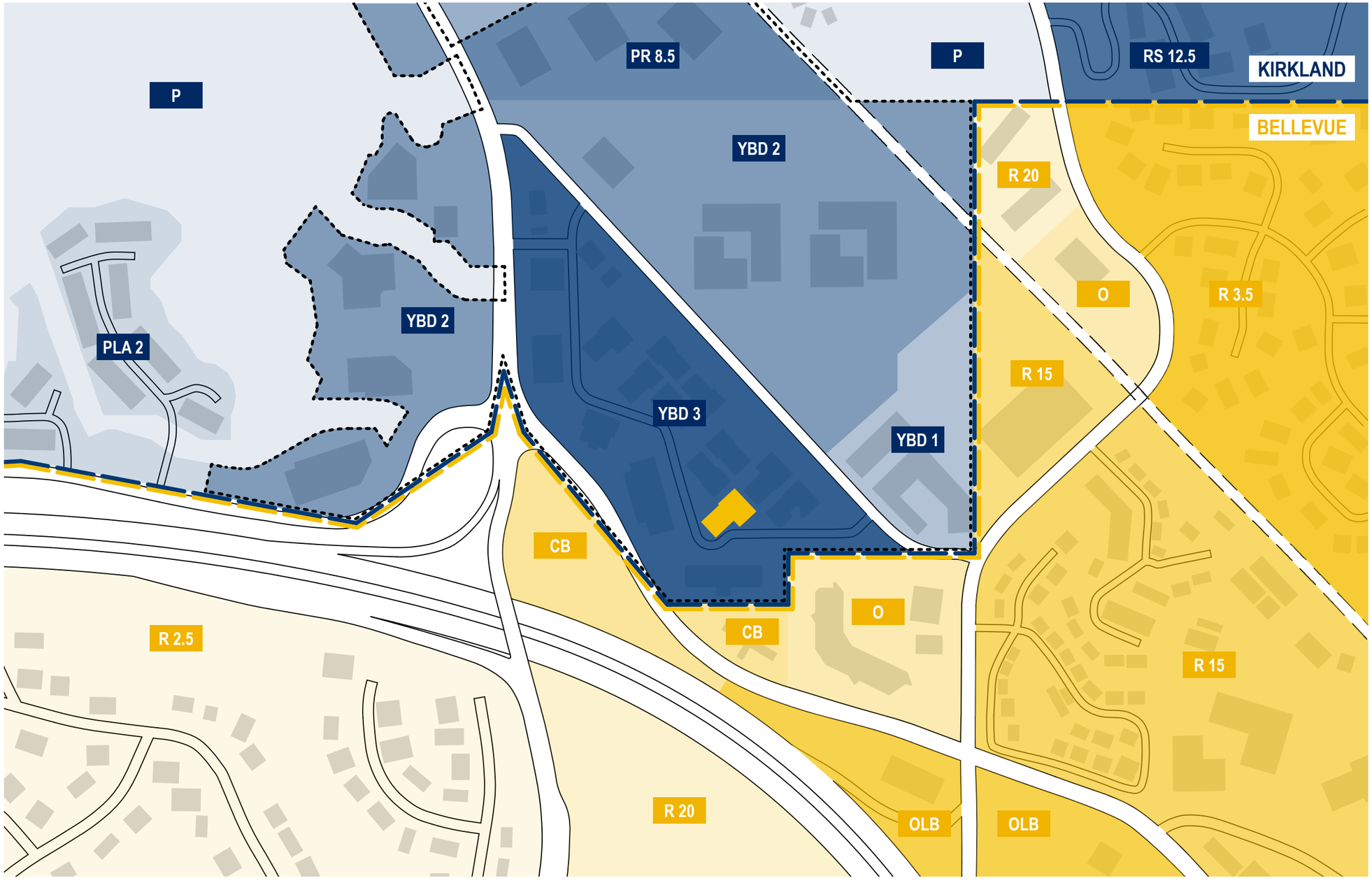
The subject property is currently occupied by a 2-story building that is part of the original suburban office park complex. The property owner has recently renovated the building to the northeast, and there are other original buildings within the Linbrook PUD. The greater Lakeview neighborhood includes a blend of commercial and residential uses. Buildings in the vicinity vary in scale and size, including single-family residential and multi-family residential subdivisions, hotel, office, low-rise commercial, and larger four-story mixed-use / park-n-ride project.

- Eastside Prep Campus
- Project Site
- 1 South Kirkland Park and Ride
- 2 New Transit-Oriented Development
- 3 Yarrow Wood Condominiums
- 4 Yarrow Bay Village
- 5 Yarrow Bay Office Park
- 6 Village Park Condominiums
- 7 Village Office Park
- 8 The Keg Restaurant
- 9 Anthony's Restaurant
- 10 Burgermaster Restaurant
- 11 Big Fish Grill Restaurant
- 12 La Quinta Inn
- 13 Chestnut Montessori
- 14 Cedar Crest Academy
- 15 Future Eastside Rail Corridor

FIGURE-GROUND AND VICINITY USE DIAGRAM

ZONING ANALYSIS

Zoning
The subject property is within the YBD 3 area of the Yarrow Bay Business District. As part of Kirkland's Lakeview Neighborhood plan, the vision for the Yarrow Bay Business District is to transform the large suburban style office park development into a more integrated, mixed-use residential and commercial district with quality architecture, site design, and identity for the district.



ZONING LEGEND

- Project Site

Kirkland Zoning

- **P** Park / Open Space
- **PLA 2** Medium Density Residential
- **PR 8.5** Office
- **RS 12.5** Low Density Residential
- **YBD 1** Transit Oriented Development
- **YBD 2** Commercial
- **YBD 3** Commercial
- Yarrow Bay Business District

Bellevue Zoning

- **R 2.5** Single Family Residential
- **R 3.5** Single Family Residential
- **R 15** Multi-Family Residential
- **R 20** Multi-Family Residential
- **CB** Commercial
- **OLB** Office
- **O** Office

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ZONING ANALYSIS DIAGRAM

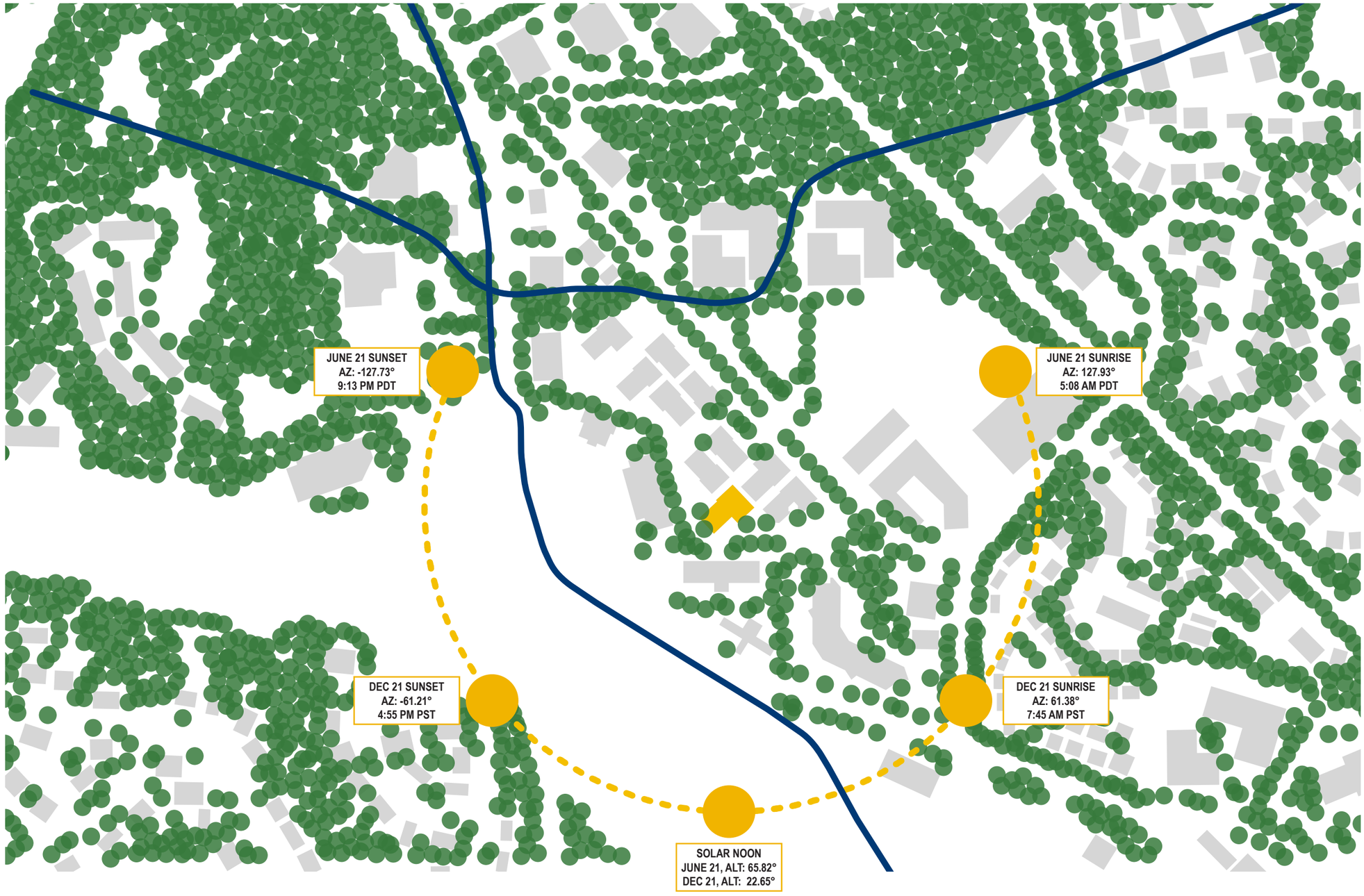
ENVIRONMENTAL ANALYSIS

Solar Access
The project site is located at the southern end of the campus. It has access to sun exposure throughout the day, in all seasons, as the distance between the site and the La Quinta Hotel to the south is significant.

Vegetation
The general vicinity has an extensive tree canopy in undeveloped areas, including the Yarrow Bay Wetlands and Watershed Park. Developed areas have generally taken care to provide trees and green space.

Wind
The prevailing winds during summer months are from the South, and the prevailing winds during winter months are from the northwest.

Water
Nearby ravines within the tree canopy support local streams which lead to the Watershed Drainage Basin, adjacent to the southern end of Yarrow Bay.



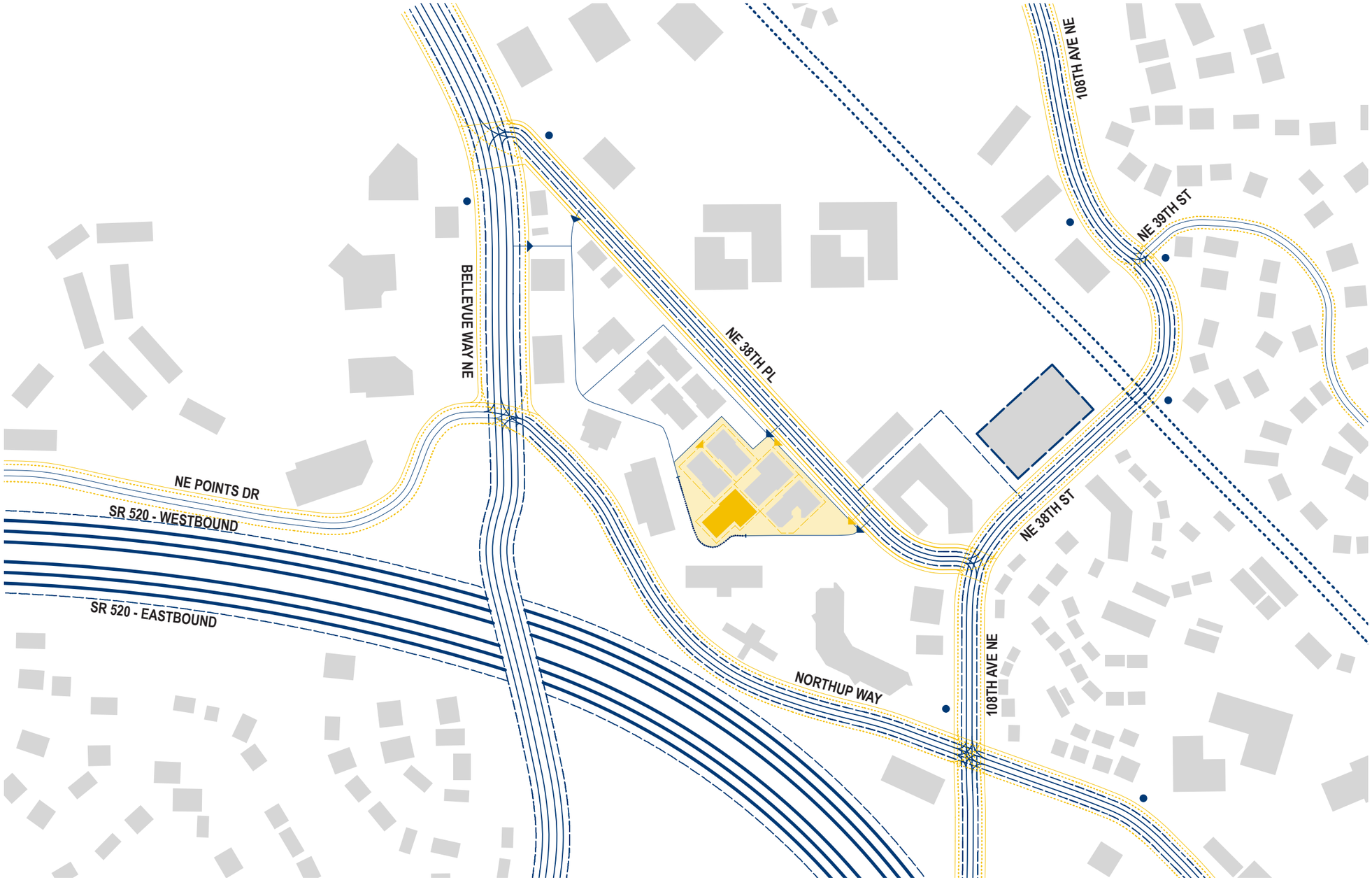
ENVIRONMENTAL ANALYSIS DIAGRAM

ACCESS ANALYSIS

Transportation
The Lakeview neighborhood is supported by a diversifying transportation system. While the foundation of the transportation system on the Eastside was primarily for the automobile, the metro system is expanding near the South Kirkland Park & Ride and the new Transit Oriented Development. Pedestrian and bicycle connections are integrated within the transportation system, and there are plans for access and safety expansion as part of the SR520 tolling project. Additionally, a future Eastside rail corridor is planned nearby.

The primary vehicular access points to the project site's campus are from NE 38th Place, which is accessed from Lake Washington Boulevard and NE 108th.

Pedestrian pathways exist within the campus and connect directly to the public sidewalk along NE 38th Place.



TRANSPORTATION LEGEND

- Project Site
- Pedestrian-Oriented Campus Interior
- Pedestrian Access Point
- Vehicular Access Point
- State Highway
- Arterial / Collector Street
- Fire Access Only
- Neighborhood Street
- South Kirkland Transit Center
- Metro Route
- Metro Bus Stop
- Future Eastside Rail Corridor
- Dedicated Bike Lane
- Bicycle-Friendly Street
- Existing Sidewalk
- Campus Walkway

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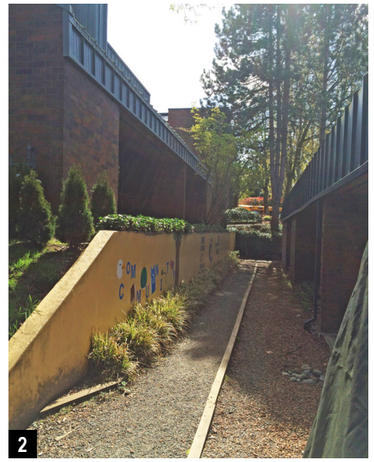
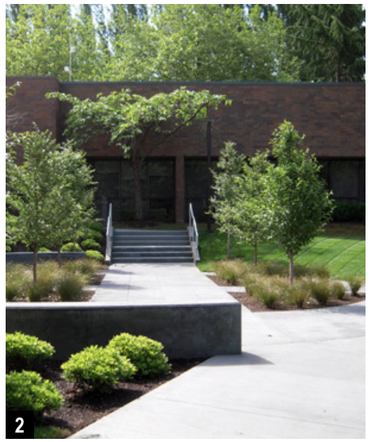
ACCESS ANALYSIS DIAGRAM

SITE / CAMPUS CONTEXT



1 Building 15/16, northwest of project site, looking southwest
2 Space between Student Commons building and Project Site, looking southeast
3 Student Commons
4 Administration Building
5 Student Commons from Building 16
6 Space between Student Commons building and Project Site, looking northwest


1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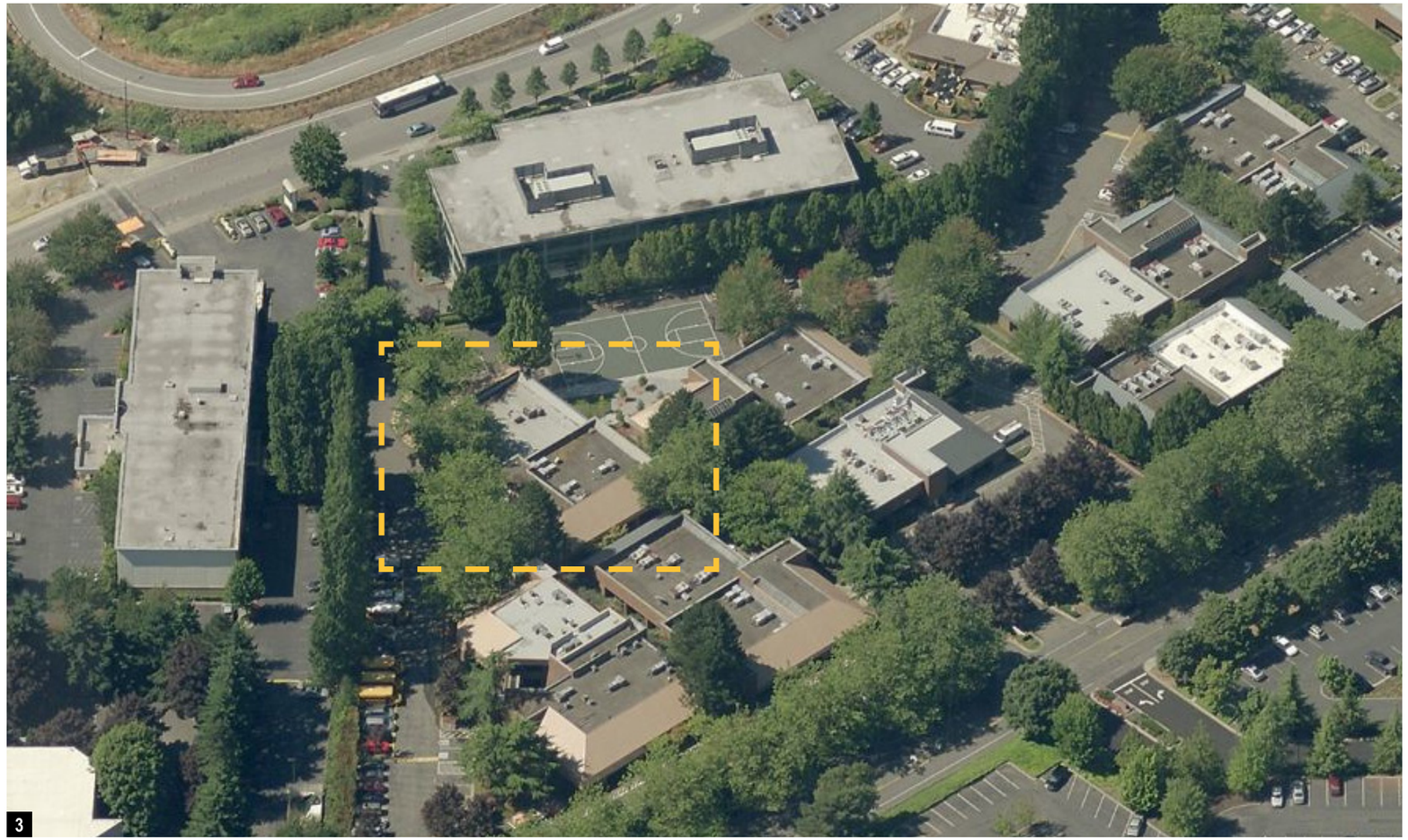
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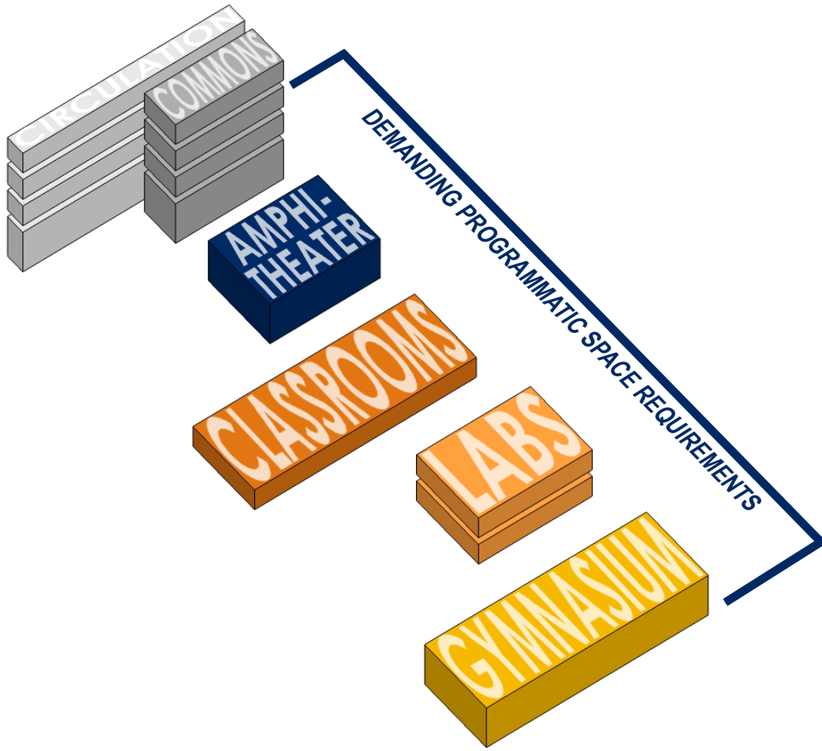
1 Hotel looking SW from site
2 View towards project site from play court
3 Birdseye of Campus
4 Student Commons
5 View of project site from SE parking lot
6 View towards play court and office building looking NW from project site

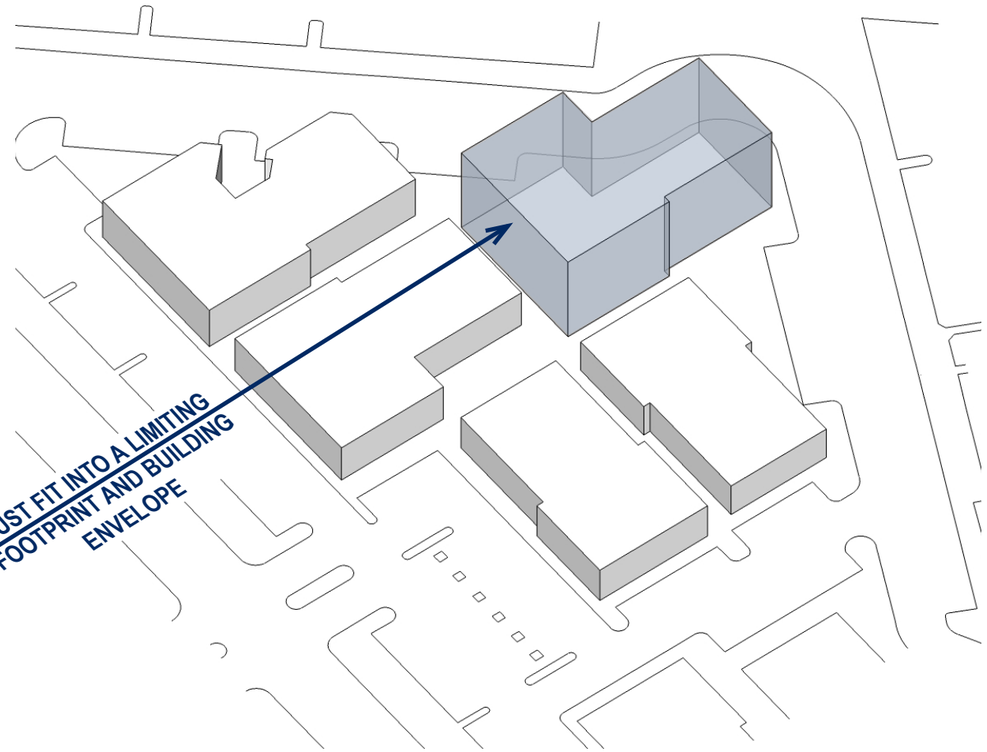
PROGRAM ORGANIZATION

The program for this new science and gym facility includes science labs, fabrication studios, classrooms, teacher offices, open areas for independent student projects, a multi-purpose amphitheater, a high school gym and fitness center. With the school constrained by the site and unable to expand its campus, the program for this project is substantial relative to the footprint and zoning envelope of the building it will replace. In fact, it is greater than the above-ground zoning volume.

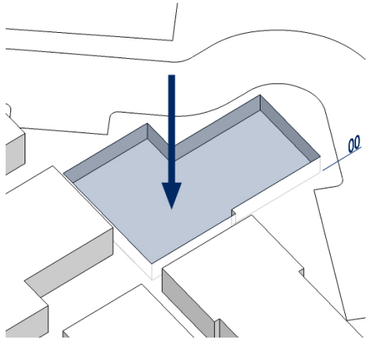
With this in mind, the design team has worked to thoughtfully distribute the program within the allowable envelope, so that it both responds to the campus and its solar orientation, creates a dynamic pedestrian environment, and creates a facility that provides an enlivened environment for learning inside and out.



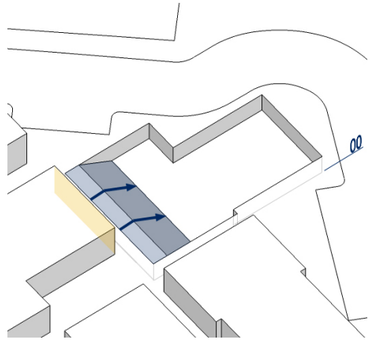
Program Diagram



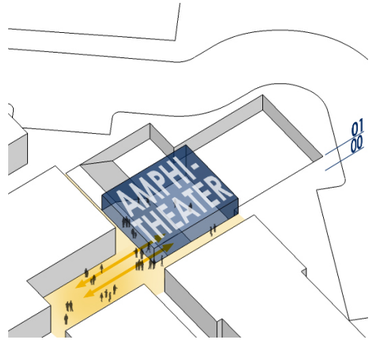
Zoning Envelope



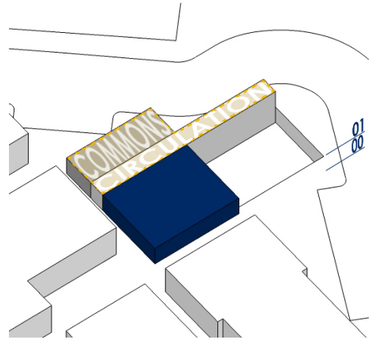
01 **Excavation**
Program requires the utilization of a basement level in the new building.



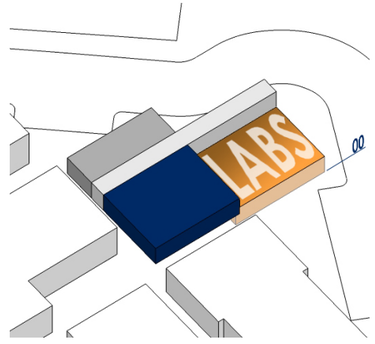
02 **Constructability**
Reduce the excavation along the northeast, and slope into the basement. Eliminate shoring requirement for construction.



03 **Amphitheater**
The amphitheater should be located at the north corner of the new building. It also functions as building entry and an active public space. Connects to existing plaza and enhances the pedestrian intersection as the heart of campus.

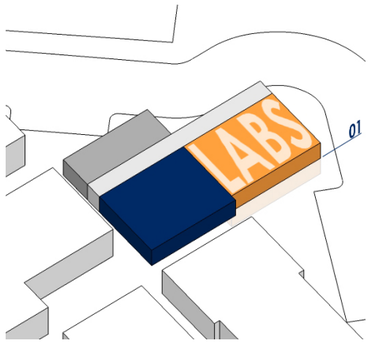


04 **Commons and Circulation**
The commons is an interactive social and learning space. There should be a commons at each level and it can function together with building circulation.



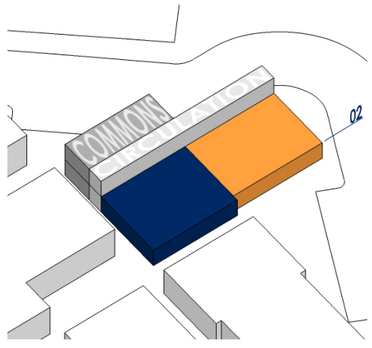
05 **"Dark" Laboratories**
Basement space is best utilized for lab spaces that do not require significant amount of natural light.
Faculty office space is integrated.

Learning Activities:
Makers Lab - CNC, 3D printing
Physics Lab
Media Lab - Green screen, Video Production

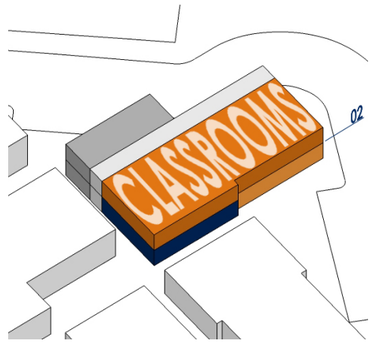


06 **Science Laboratories**
Science labs occur on the first level, and stack with the labs below. Placement of the science labs on the first level make access convenient for daily class schedules.
Faculty office space is integrated.

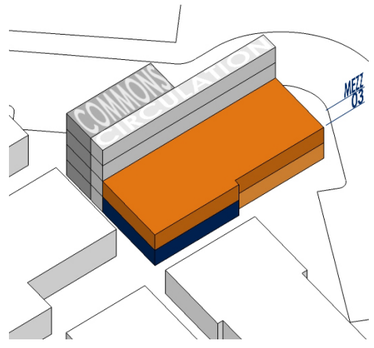
Learning Activities:
Biology Lab
Chemistry Lab



07 **Commons and Circulation**
The commons is an interactive social and learning space. There should be a commons at each level and it can function together with building circulation.



08 **Classrooms**
The second level is dedicated to classrooms. Placement of the classrooms on the second level make access convenient for daily class schedules.
Faculty office space is integrated.



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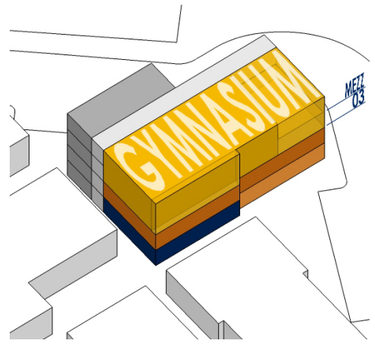
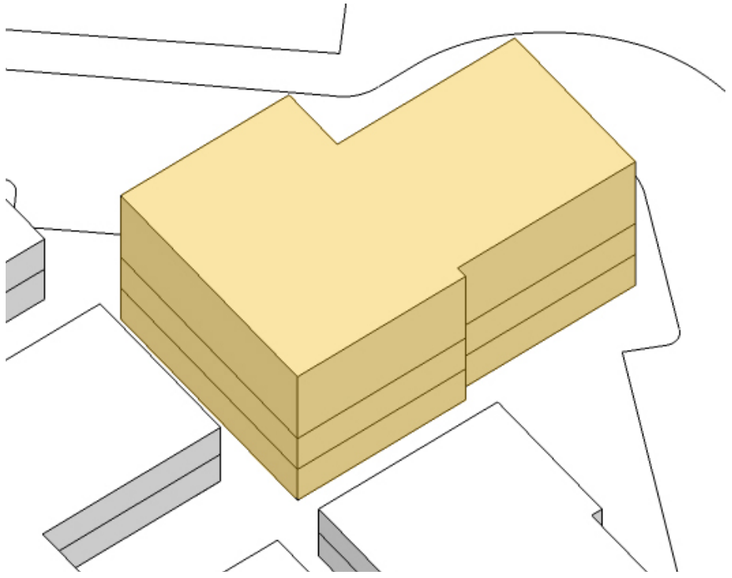
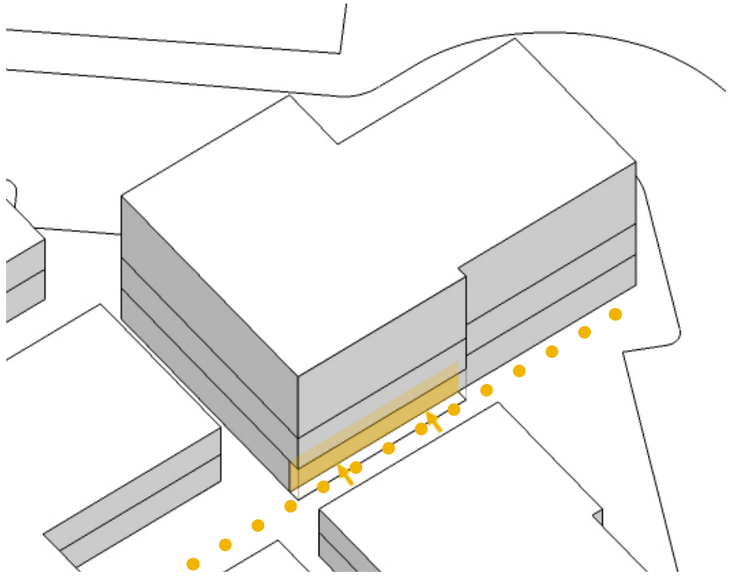


10 **Gymnasium and Fitness**
The gymnasium is located in the north corner of the building, on the upper level. This is the only feasible location for the gymnasium:
- Gym dimensional requirements determine the location within the building footprint.
- Structural efficiency is created by preventing excessive loads over the clear span, if the classrooms and labs were above the gym
- Frequency of activity in the gym is less than the demand for classrooms and labs

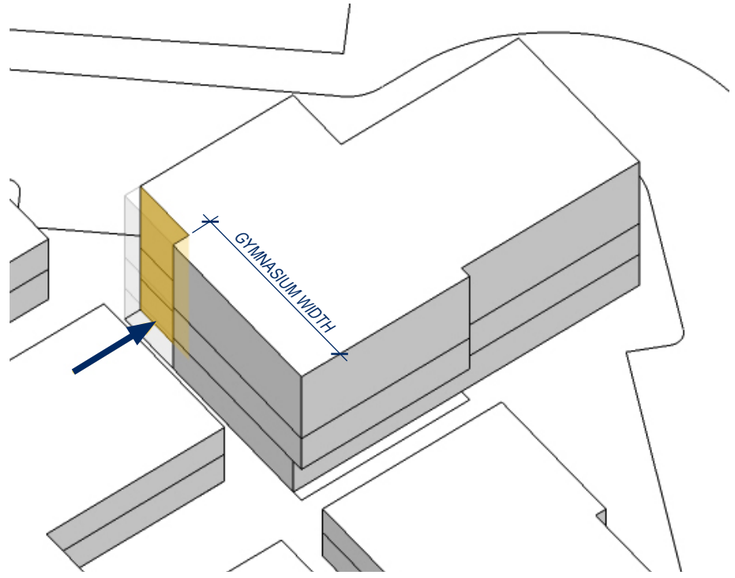
ALTERNATIVE 1 - FORMAL DEVELOPMENT



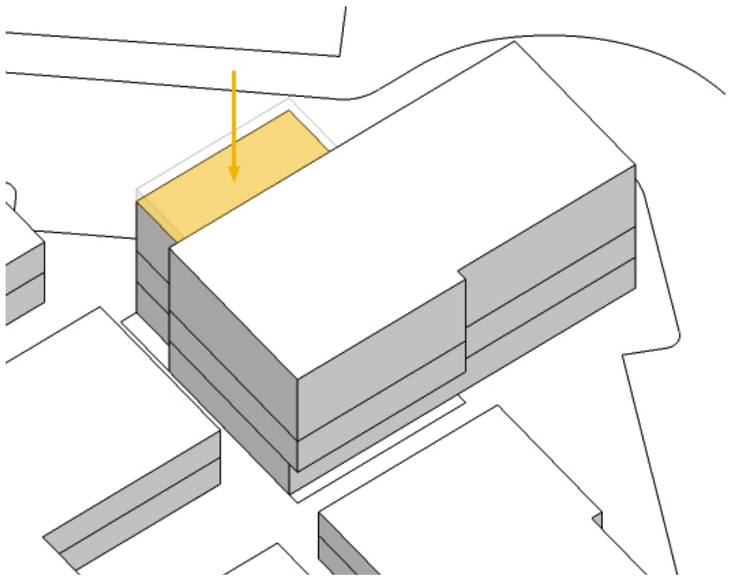
01 **Zoning Envelope**
Massing begins with the volume of the zoning envelope. Modifications respond directly to the limitations of the project program and the campus site characteristics.



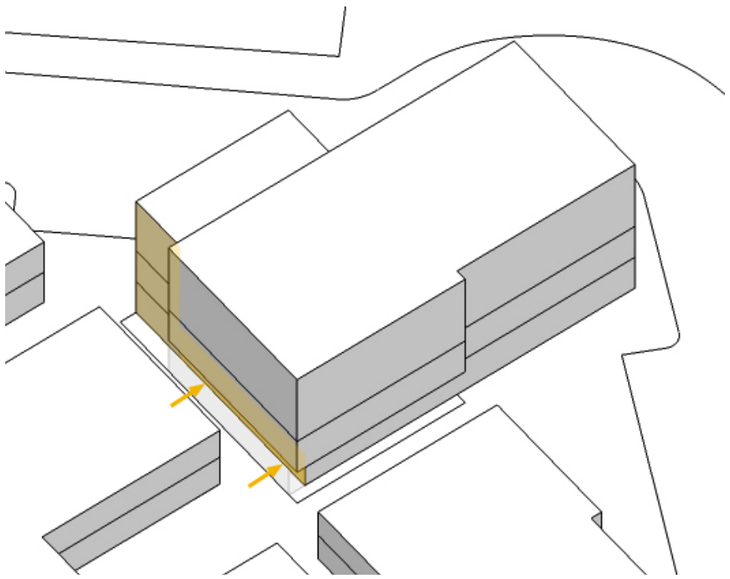
02 **Campus Walkway**
Massing steps back at ground level to create a generous walkway for the pedestrian-oriented campus interior.



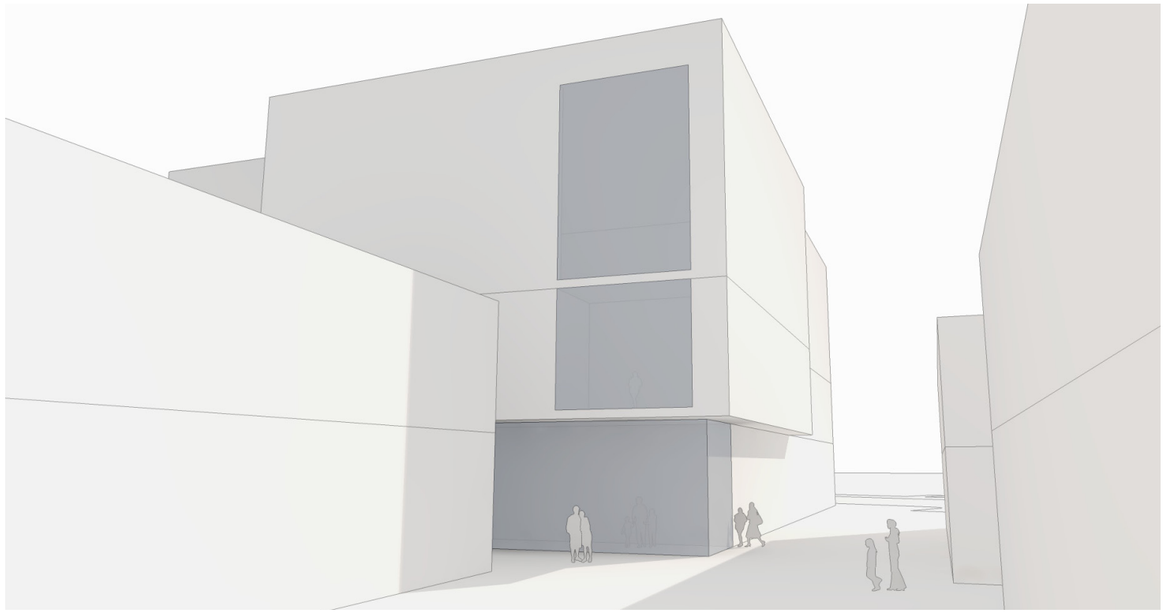
03 **Step back Commons**
Beyond the required width of the gymnasium, the building steps back within the Commons and Circulation.



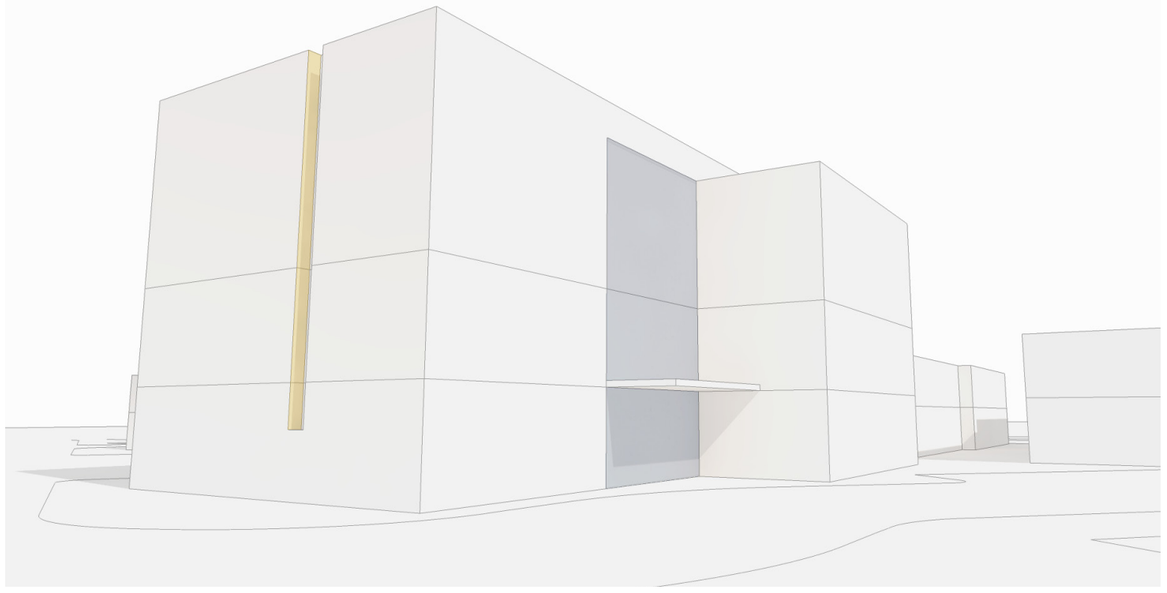
04 **Commons Height**
The Commons area does not have the same height requirement as the gymnasium and is therefore lowered.



05 **Building Entry**
The ground level along the northeast elevation steps back to the Commons plane and creates a covered entry to the building.



Alternative 01 **Perspective View 01**



Alternative 01 **Perspective View 02**

ALTERNATIVE 1 - OVERVIEW

Description

Alternative 1 makes reductions to the building volume with the zoning envelope as a starting point. The modifications are based solely on site parameters and programmatic limitations. It connects to the existing campus pathway along the northwest elevation and links to the Student Commons plaza, at the heart of campus. To create a covered building entry, the ground level along the northeast elevation is recessed.

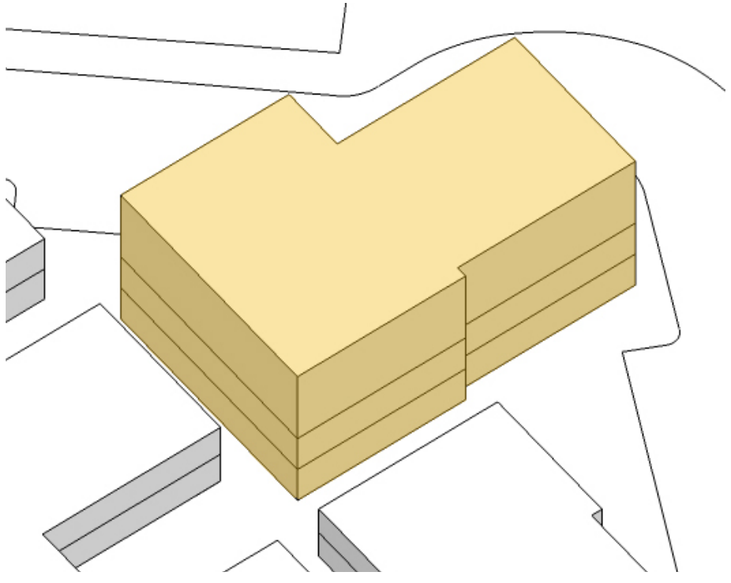
Advantages

- Responds to campus walkway network
- Provides greater width at a portion of the gymnasium, although the space of limited utility.

Challenges

- Fire separation requirement creates blank wall at North building corner, facing northwest
- Separation of commons and circulation creates bulky building at southeast
- Southeast portion of building massing does not provide ideal functionality for the gym and mezzanine.

ALTERNATIVE 2 - FORMAL DEVELOPMENT



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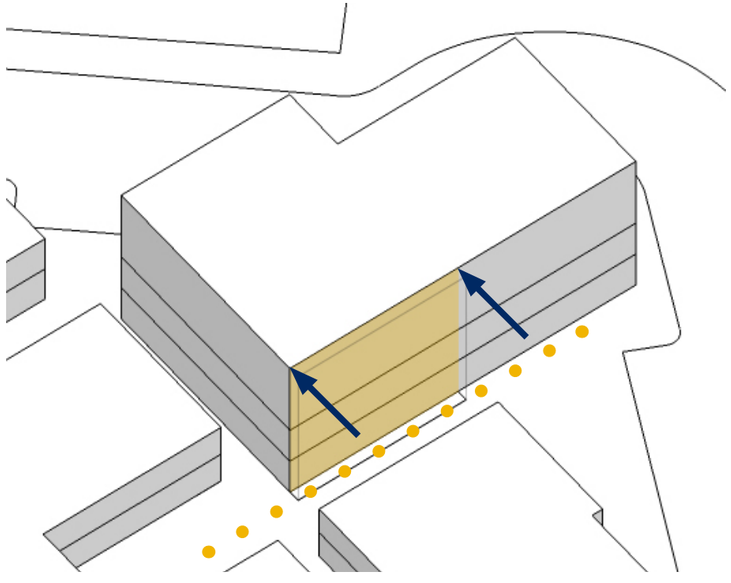
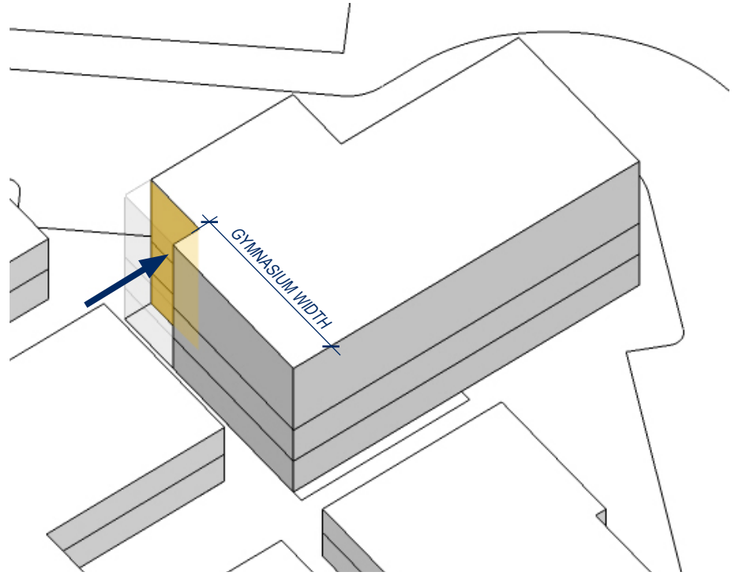


02 **Campus Walkway**

Massing steps back to create a generous walkway for the pedestrian-oriented campus interior. The step back also responds to fire separation code requirements, creating a distance from the adjacent building which will limit blank wall in the shaded area.



03 **Step back Commons**

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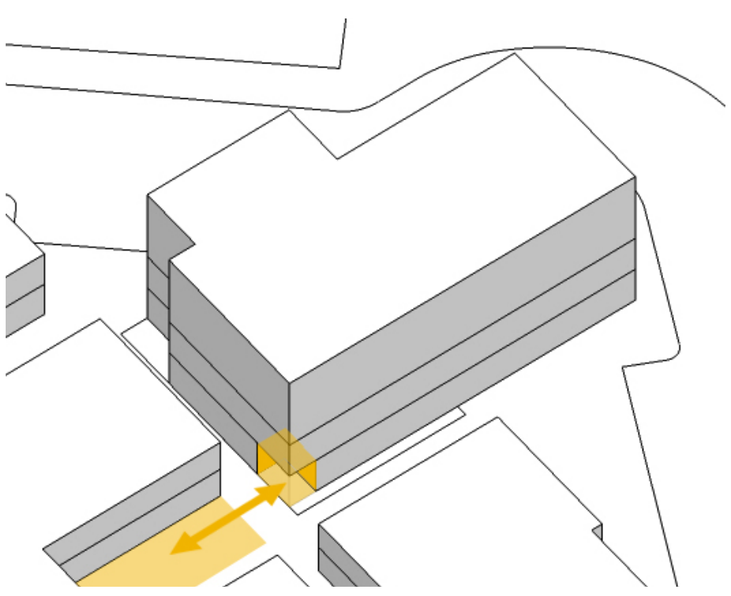
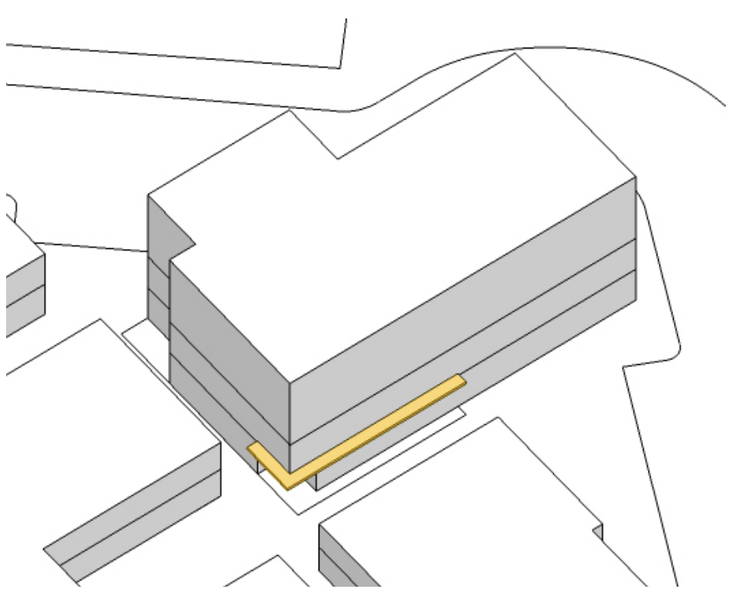


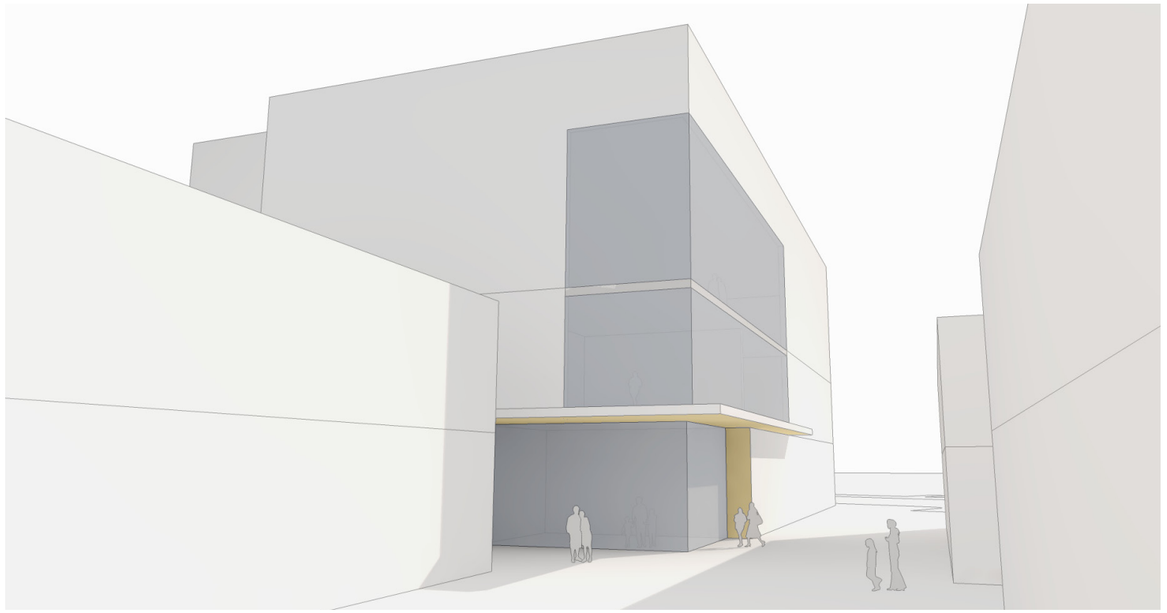
04 **Building Entry**

Recess primary entrance at north building corner to create direct connection to existing Student Commons building and central plaza.

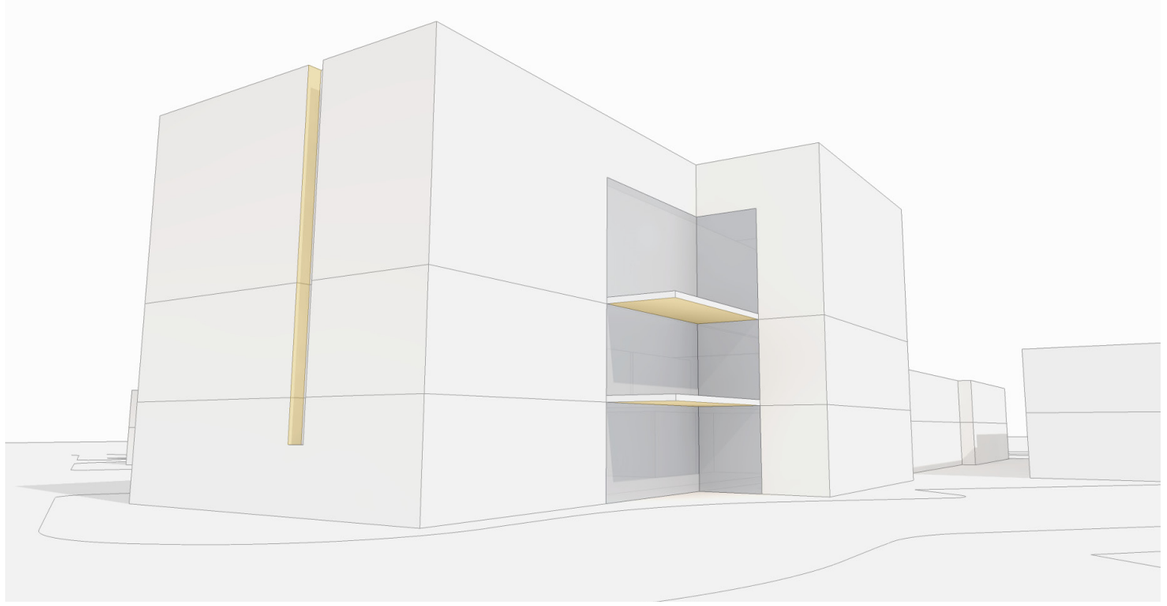


05 **Covered Entry**

Provide an awning element to create weather protection for the building entry.



Alternative 02 **Perspective View 01**



Alternative 02 **Perspective View 02**

ALTERNATIVE 2 - OVERVIEW

Description

Alternative 2 also makes reductions to the building volume with the zoning envelope as a starting point. The modifications are based on site parameters and programmatic limitations. It connects to the existing campus pathway along the northwest elevation and links to the Student Commons plaza, at the heart of campus. An awning element defines the building entry at the north corner of the building and creates more weather protection at the entry.

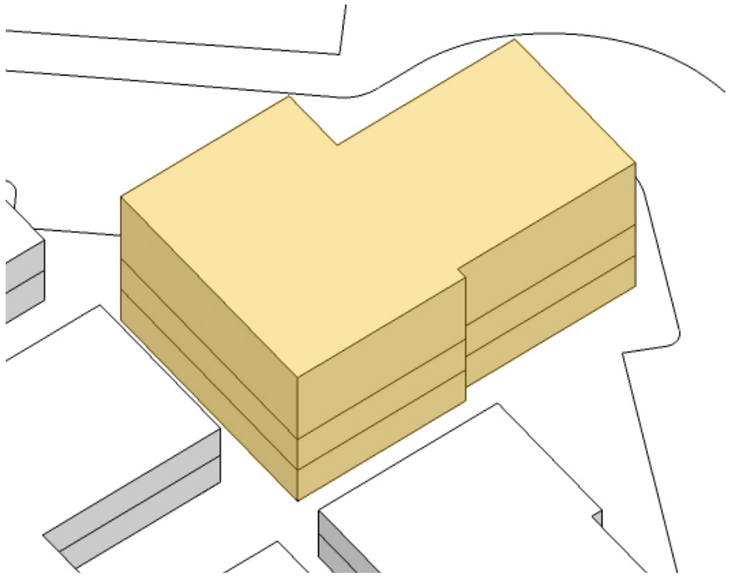
Advantages

- Responds to campus walkway network
- Fire separation issue is alleviated and allows greater glazing at the NE corner of the building
- Efficient construction with undifferentiated roof heights.

Challenges

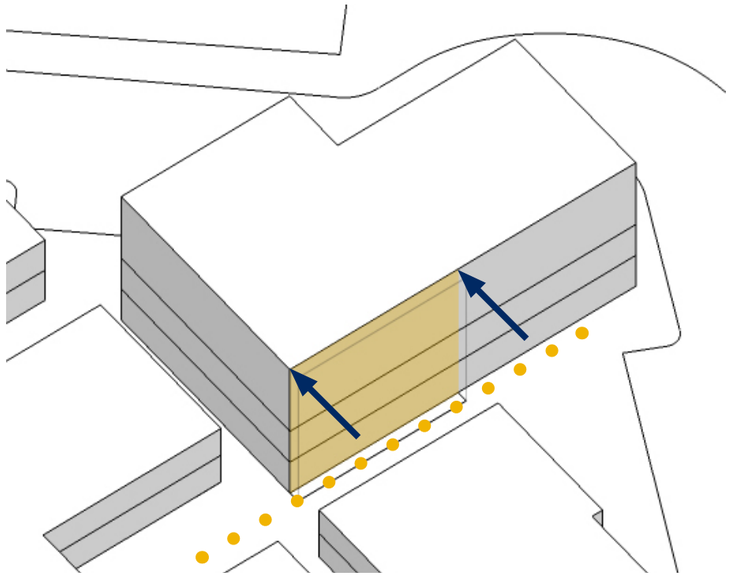
- Southeast portion of building massing does not provide ideal functionality for the gym and mezzanine.
- The height, bulk and scale of building as seen from the southeast is less differentiated.
- Continuous parapet results in less differentiation in the massing.

ALTERNATIVE 3 - FORMAL DEVELOPMENT



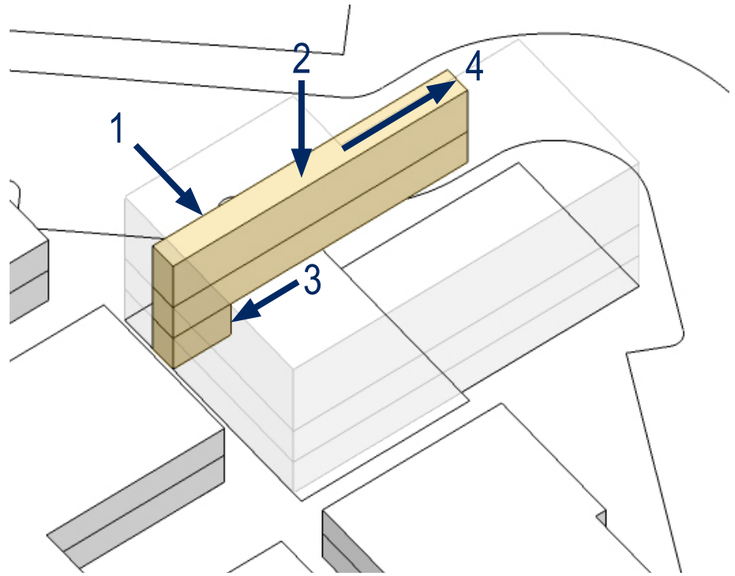
01 **Zoning Envelope**

Massing begins with the volume of the zoning envelope. Modifications respond directly to the limitations of the project program and the campus site characteristics.



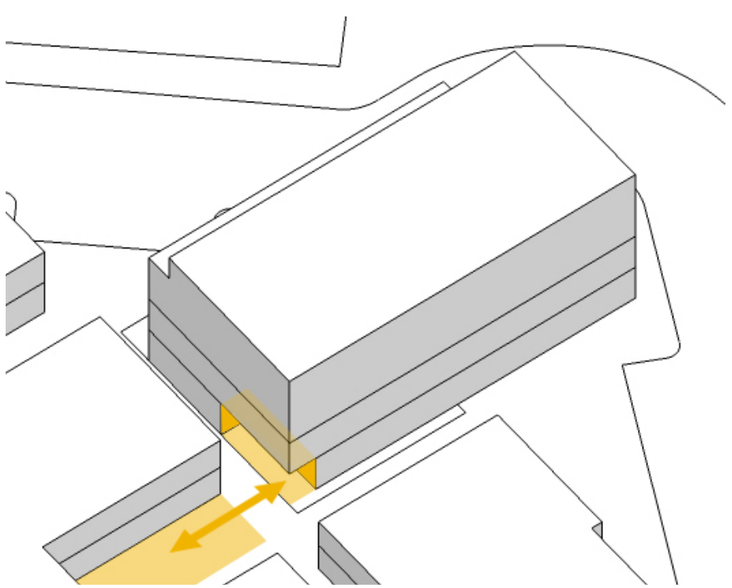
02 **Campus Walkway**

Massing steps back to create a generous walkway for the pedestrian-oriented campus interior. The step back also responds to fire separation code requirements, creating a distance from the adjacent building which will limit blank wall in the shaded area.



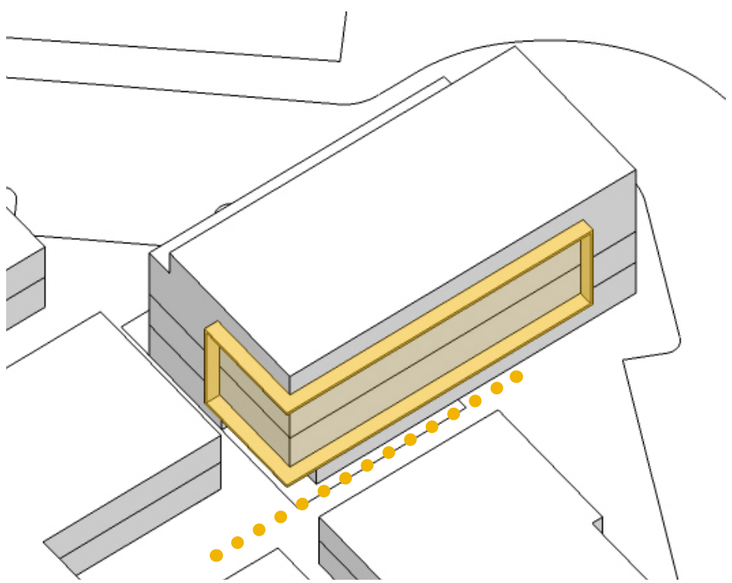
03 **Reduced Circulation/Commons**

1 Reduce area requirement for Commons.
2 Lower height of Circulation/Commons bar.
3 Restrict footprint to vertical circulation and create exterior terrace at ground level.
4 Extend length of Commons at classrooms, gymnasium, and mezzanine.



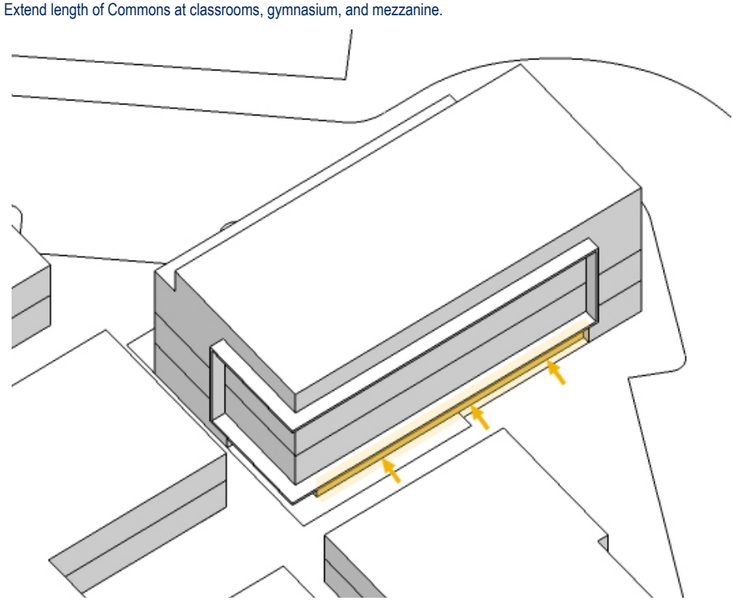
04 **Building Entry**

Recess primary entrance at north building corner to create direct connection to existing Student Commons building and central plaza.



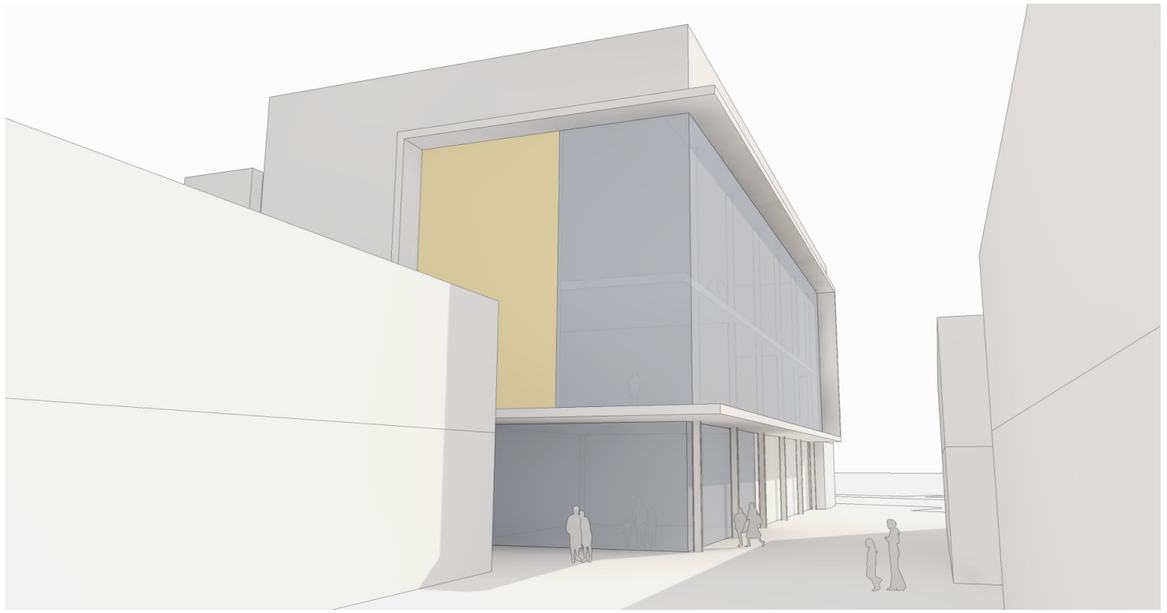
05 **Covered Walkway/Building Scale**

Provide a continuous awning element to create weather protection for the walkway. Awning element visually reduces the perceived height of the building and divides the facade into separate sections.



06 **Recessed Ground Level**

Ground level steps back to create a wider covered pedestrian walkway along the building facade within the campus interior.



Alternative 03 **Perspective View 01**

Alternative 03 **Perspective View 02**

ALTERNATIVE 3 - OVERVIEW

Description

Alternative 3 also makes reductions to the building volume with the zoning envelope as a starting point. The modifications are based on site parameters, programmatic limitations, utilization of basement space, and creative integration of program. It connects to the existing campus pathway along the northwest elevation and links to the Student Commons plaza, at the heart of campus. A secondary plaza is incorporated and physically connects between interior and exterior of the new building. A continuous awning element defines the weather protected building entry and walkway, and also visually reduces the vertical scale of the building.

Advantages

- Responds to and enlivens campus walkway network
- Integration of commons and circulation reduces bulk at southeast and creates additional social and learning opportunities for the students
- Continuous awning element increases pedestrian weather protection for students
- Continuous awning element visually reduces the vertical scale of the building
- Southeast façade is reduced in height, bulk and scale, provides covered entry and outdoor plaza, as well as sun protection.
- Increased transparency along pathway from commons provides improved daylight for classrooms and gym.

Challenges

- Potentially less structurally efficient along southeast façade
- Potential added costs of construction in the construction inefficiency.